

Claims 11-17 and 20-23 are pending in the application. New claim 24 has been added to the application. Therefore, claims 11-17 and 20-24 are at issue.

New claim 24 recites a unit dose of about 20 mg of Compound (I). Support for claim 24 can be found, for example, in claims 13 and 14.

The courteous interview granted to applicants' undersigned attorney and Soonhee Jang by Examiner Cook on December 10, 2003 is hereby acknowledged with appreciation. During the interview, the outstanding Office Action, cited reference, and claims on file were discussed in detail.

Claims 11-17 and 20-23 stand rejected under the judicially created doctrine of obviousness-type double patenting over U.S. Patent No. 6,451,807. In view of the terminal disclaimer filed concurrently with this response, it is submitted that this rejection has been overcome and should be withdrawn.

Claims 11-17 and 20-23 stand rejected under 35 U.S.C. §103 as being obvious over Daugan U.S. Patent No. 6,140,329 ('329). This rejection is based on the contention that the '329 patent discloses the compound recited in the claims, use of the compound to treat sexual dysfunction, oral administration, and a dosage encompassing the recited dosage range. For the reasons set forth herein, it is submitted that claims 11-17 and 20-24 would not have been obvious to a person skilled in the art under 35 U.S.C. §103 over the '329 patent.

The present claims recite a method of treating sexual dysfunction in a patient in need thereof by the oral administration of a unit dosage composition

containing about 1 to about 20 mg of Compound (I), up to a maximum dose of 20 mg per day. The method can be used to treat sexual dysfunction, including male erectile dysfunction (MED) and female arousal disorder (FAD), as recited in the claims. The '329 patent discloses the use of compounds A and B for treating sexual dysfunction over the broad range of 0.5-800 mg, and in tablet or capsule dosage forms over a range of 0.2-400 mg to treat sexual dysfunction (column 3, lines 48-55).

The unit dose range of 1-20 mg as claimed in independent claim 13 of the present application is important because at this dose range it has surprisingly low adverse side effects while still unexpectedly found to be efficacious. The present specification discloses clinical study results showing that a dose range of about 2 mg to 100 mg are efficacious (specification, page 31), but doses at a level greater than about 20 mg (e.g., 25 mg to 100 mg) result in unpleasant adverse events, such as headache, dyspepsia, and back pain (specification, page 30, lines 15-23 and page 32, lines 15-20). The present specification further discloses "even though efficacy in the treatment of ED was observed at 25 mg to 100 mg unit doses, the adverse events observed from 25 mg to 100 mg dose must be considered" (Example 7 of the specification shows that undesirable adverse events are dose related). Consequently, doses of Compound (I) above about 20 mg would have reduced tolerability because of an increased level of adverse events.

Although the '329 patent teaches a unit dosage range for the disclosed compounds of 0.2 to 400 mg, administered once or several times per day, the '329

patent does not teach or suggest a low *maximum* daily dose for effective treatment of sexual dysfunction. An important feature of the present invention is administration of an oral dose of the claimed unit dosage composition at about 20 mg or less, per day, to treat sexual dysfunction, while substantially reducing adverse events associated with this PDE5 inhibitor treatment.

The '329 patent does not suggest or forecast that a low unit dose of about 1 to about 20 mg of Compound (I) would exhibit unexpected efficacy *and* at the same time unexpectedly reduce the number of adverse events. The '329 patent discloses a broad dose range of 0.2-400 mg in tablets or capsules, but this disclosure would not have *suggested* to one of ordinary skill in the art *at the time invention was made* that the low claimed dose range presently claimed would exhibit the unexpectedly surprising results of not only being efficacious, but also substantially reducing the number of adverse events as discussed above. The '329 patent broadly discloses a dosage range for various PDE5 inhibitors, but fails to teach or suggest the specific unit dosage, maximum daily dosage, *and* the specific compound of the present invention that provides such new and unexpected benefits. Although column 10, lines 1-3 of the '329 patent states that "other doses may be prepared," it provides largely or at best an illustrative purpose as to show those skilled in the art how to make a different formulation.

In addition to the above remarks, the Declaration of Gregory D. Sides, M.D. (Sides Declaration) submitted concurrently with this response, illustrates

and corroborates the new and unexpected results provided by the presently claimed invention, i.e., the discovery that the compound recited in independent claim 13 can be orally administered in one or more unit dose containing about 1 to about 20 mg of the compound, up to a maximum dose of 20 mg/day, to provide an effective method of treating sexual dysfunction, while substantially reducing various adverse events. The original signed copy of the Sides Declaration will be retained in applicants' file, but will be forwarded to the examiner upon request.

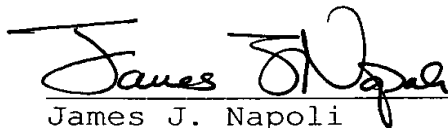
It is submitted that the claims are in proper form and scope for allowance. An early and favorable action on the merits is respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form in an effort to advance this application toward allowance, the examiner is urged to telephone the undersigned at the indicated number.

Respectfully submitted,

**MARSHALL, GERSTEIN & BORUN LLP**

By



James J. Napoli  
(Registration No. 32,361)  
Attorneys for Applicants  
6300 Sears Tower  
233 South Wacker Drive  
Chicago, Illinois 60606  
(312) 474-6300

Chicago, Illinois  
January 12, 2004